Arctic Slope Telephone Association Cooperative, Inc. Alaska Plan Performance Obligations Wireline 10/18/2018 Revision

Note 1 Note 2

			Number of	Number of	Number of
		Locations	Locations At	Locations At	Locations At
		Passed	Benchmark	Benchmark	Benchmark
Middle Mile Facility	Speed to End User	1/1/18	1/1/18	Year 5	Year 10
Satellite	1Mb/256k	398	100%	100%	100%
Hybrid Microwave-Fiber*	10Mb/1Mb	161	100%	100%	100%
Fiber*	10Mb/1Mb	2156	100%	100%	100%
Fiber*	25Mb/3Mb				
Total		2,715			

Note 1: Residential speeds.

Note 2: Residential and estimated business locations passed in ETC's network as of 12/31/15.

^{*} ASTAC is able to meet the latency requirements in those markets connected by Fiber and hybrid Microwave-Fiber middle mile. ASTAC is prepared to demonstrate why the reasonably comparable rate requirement is not feasible in any of its markets with use of a simple economic model. We will show that the prohibitive factor continues to be the high cost of middle mile transport.

Arctic Slope Telephone Association Cooperative, Inc. Alaska Plan Performance Obligations Wireless 10/18/2018 Revision

Note 1 Note 2 Note 2 Minimum Minimum Minimum % Base 5 Year % 10 Year Total Technology Of Expected **Population** 10 Year % Population Spectrum 5 Year Base Expected Expected **Population** Total Base 2010 Population Middle Mile Transmission Codes Upload/ Served Upload/ Population Upload/ Served **Population Population** Census (477 Code) (477 Code) Download 12/31/15 Served Download Served Download 12/31/15 Served Served Speeds Speeds Speeds 86 (GSM) 2G 91 32/32 Kbps 6427 100% 81 (HSPA+) 3G 90,91 985 100% .2/.05 Mbps Satellite* 6,427 1.0/.25 90,91 985 100% 83 (LTE) 4G Mbps Total Satellite 6427 100% 985 100% 985 100% 86 (GSM) 91 2576 100% 5.0/1.0 2,576 100% Microwave/Fiber 90.91.94 402 100% 2/.8 Mbps 402 83 (LTE) 4G Mbps Total 2576 100% 402 402 100% 100% Microwave/Fiber 10.0/1.0 5.0/1.0 83 (LTE) 4G 90, 91, 94 7.616 100% 7.616 100% Mbps Mbps Fiber Total Fiber 7,616 100% 7,616 100% **Grand Total** 9,003 9003 100% 9003 100% 9003 100%

Note 1: Population per 2010 Census in service area. Excludes population served by AT&T and/or Verizon at 4G LTE using their infrastructure. Includes Prudhoe Bay, AK pops but note that 100% of reported "residents" are oilfield (shift) workers. **ASTAC** has applied the "GCI Model" for population distribution within census blocks in all markets with the exception of the Prudhoe Bay region, where the private landholding logic does not correctly represent population distribution. ASTAC is able to illustrate that it covers 100% of the roads and all permanent lodging facilities in the region.

Note 2: Microwave/Fiber middle mile markets assumes use of multiple spectrums to deliver services. Year one is 2017.

Sources: U.S. Census Bureau, Population Estimates Program (PEP), Updated annually. http://www.census.gov/popest/. U.S. Census Bureau, 2010 Census of Population, P94-171 Redistricting Data File. Updated every 10 Codes: https://transition.fcc.gov/form477/477inst.pdf

^{*} Today, the limiting factor for broadband speeds on HSPA+ and LTE technology in a satellite fed middle mile market is the cost of that transport, not the technology itself. If ASTAC's economics change in the future we will update our obligations.